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14. (Amended) A thin-core or coreless integrated circuit printed circuit board (IC-PCB) carrier package having one of a thin-core and coreless substrate, and a stiffener to provide stiffening support to the one of a thin-core and coreless substrate.

15. (Amended) A thin-core or coreless IC-PCB carrier package as claimed in claim 14, the IC-PCB carrier package being one of a flip chip pin grid array (FC-PGA) and a flip chip ball grid array (FC-BGA) carrier package.

16. (Amended) A thin-core or coreless IC-PCB carrier package as claimed in claim 14, where the stiffener is substantially made of at least one of a metal, plastic, glass and ceramic material, is one of a molded, stamped, etched, extruded and deposited stiffener, and is capable of withstanding high temperatures of at least one of an IC die bonding operation and normal IC operation.

17. (Amended) A thin-core or coreless IC-PCB carrier package as claimed in claim 14, the stiffener being planar and mounted to a die-side major planar surface of the substrate.

18. (Amended) A thin-core or coreless IC-PCB carrier package as claimed in claim 14, the stiffener having an internal window therein to provide clearance for at least one of a die, under-fill, die side components (DSC), and integrated heat spreader (IHS).

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19. (Amended; withdrawn from consideration) A thin-core or coreless IC-PCB carrier package as claimed in claim 14, the stiffener being a multi-part stiffener.

20. (Amended) A thin-core or coreless IC-PCB carrier package as claimed in claim 14, the stiffener having an above-substrate-plane height, which is less-than or equal to an above-substrate-plane height, when mounted, of one of: an IC-die, and a combination of an IC-die with an integrated heat spreader (IHS).

21. (Amended) A thin-core or coreless IC-PCB carrier package as claimed in claim 14, the stiffener having a top surface above a substrate-plane, which is substantially co-planar with, when mounted, a top surface of one of: an IC-die, and a combination of an IC-die with an integrated heat spreader.

22. (Twice amended) A thin-core or coreless IC-PCB carrier package as claimed in claim 21, the stiffener being disposable to co-support a heat sink, with one of: an IC-die, and a combination of an IC-die with an integrated heat spreader (IHS).

23. (Amended) A thin-core or coreless IC-PCB carrier package as claimed in claim 14, where if a main body of the stiffener is electrically conductive, the stiffener further includes an insulator to electrically insulate electrical members on stiffener-opposing areas of the substrate.

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cont. 24. (Amended; withdrawn from consideration) A thin-core or coreless IC-PCB carrier package as claimed in claim 14, the stiffener being an edge stiffener mounted to minor-planar side-surfaces of the substrate.

25. (Amended; withdrawn from consideration) A thin-core or coreless IC-PCB carrier package as claimed in claim 14, the edge stiffener having a non-flat cross section which is mated with the side-surfaces of the substrate.

26. (Amended; withdrawn from consideration) A thin-core or coreless IC-PCB carrier package as claimed in claim 14, where the edge stiffener is pre-attached to the substrate by an IC-PCB carrier package manufacturer.

27. (Amended) A packaged integrated circuit (IC) comprising:
an IC, and a thin-core or coreless integrated circuit printed circuit board (IC-PCB) carrier package having one of a thin-core and coreless substrate, and a stiffener to provide stiffening support to the one of a thin-core and coreless substrate.

~~28. A packaged IC as claimed in claim 27, the IC-PCB carrier package being one of a flip chip pin grid array (FC-PGA) and a flip chip ball grid array (FC-BGA) carrier package.~~

B² 29. (Amended) A packaged IC as claimed in claim 27, where the stiffener is substantially made of at least one of a metal, plastic, glass and ceramic material,

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is one of a molded, stamped, etched, extruded and deposited stiffener, and is capable of withstanding high temperatures of at least one of an IC die bonding operation and normal IC operation.

30. A packaged IC as claimed in claim 27, the stiffener being planar and mounted to a die-side major planar surface of the substrate.

31. A packaged IC as claimed in claim 27, the stiffener having an internal window therein to provide clearance for at least one of a die, under-fill, die side components (DSC), and integrated heat spreader (IHS).

32. (Withdrawn from consideration) A packaged IC as claimed in claim 27, the stiffener being a multi-part stiffener.

33. A packaged IC as claimed in claim 27, the stiffener having an above-substrate-plane height, which is less-than or equal to an above-substrate-plane height, when mounted, of one of: an IC-die, and a combination of an IC-die with an integrated heat spreader (IHS).

34. A packaged IC as claimed in claim 27, the stiffener having a top surface above a substrate-plane, which is substantially co-planar with, when mounted, a top surface of one of: an IC-die, and a combination of an IC-die with an integrated heat spreader.

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35. (Amended) A packaged IC as claimed in claim 34, the stiffener being disposable to co-support a heat sink, with one of: an IC-die, and a combination of an IC-die with an integrated heat spreader (IHS).

36. A packaged IC as claimed in claim 27, where if a main body of the stiffener is electrically conductive, the stiffener further includes an insulator to electrically insulate electrical members on stiffener-opposing areas of the substrate.

37. (Withdrawn from consideration) A packaged IC as claimed in claim 27, the stiffener being an edge stiffener mounted to minor-planar side-surfaces of the substrate.

38. (Withdrawn from consideration) A packaged IC as claimed in claim 27, the edge stiffener having a non-flat cross section which is mated with the side-surfaces of the substrate.

39. (Withdrawn from consideration) A packaged IC as claimed in claim 27, where the edge stiffener is pre-attached to the substrate by an IC-PCB carrier package manufacturer.

Please cancel Claims 40-45, without prejudice or disclaimer of any scope or subject matter.

46. A thin-core or coreless integrated circuit printed circuit board (IC-PCB) carrier package having one of a thin-core and coreless substrate, and a stiffener secured onto the at least one of a thin-core and coreless substrate of the integrated circuit printed circuit board (IC-PCB) carrier package to provide stiffening support thereto.

B4 47. (Amended) A thin-core or coreless IC-PCB carrier package as claimed in claim 46, the IC-PCB carrier package being one of a flip chip pin grid array (FC-PGA) and a flip chip ball grid array (FC-BGA) carrier package.

48. (Amended) A thin-core or coreless IC-PCB carrier package as claimed in claim 46, the stiffener is substantially made of at least one of a metal, plastic, glass and ceramic material, is one of a molded, stamped, etched, extruded and deposited stiffener, and is capable of withstanding high temperatures of at least one of an IC die bonding operation and normal IC operation.

49. (Amended) A thin-core or coreless IC-PCB carrier package as claimed in claim 46, the stiffener being planar for mounting to a die-side major planar surface of the substrate.

50. (Amended; withdrawn from consideration) A thin-core or coreless IC-PCB carrier package as claimed in claim 46, the stiffener being a multi-part stiffener.

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51. (Amended) A thin-core or coreless IC-PCB carrier package as claimed in claim 46, the stiffener being disposable to co-support a heat sink, with one of: an IC-die, and a combination of an IC-die with an integrated heat spreader (IHS).

Please add the following new claims:

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52. (New) An electronic system comprising:
packaged integrated circuit (IC) having an IC, and a thin-core or coreless integrated circuit printed circuit board (IC-PCB) carrier package having one of a thin-core and coreless substrate, and a stiffener to provide stiffening support to the one of a thin-core and coreless substrate;
a receiving socket to receive the packaged IC; and
at least one input/output device.

53. (New) An electronic system as claimed in claim 27, the IC-PCB carrier package being one of a flip chip pin grid array (FC-PGA) and a flip chip ball grid array (FC-BGA) carrier package.

54. (New) An electronic system as claimed in claim 27, where the stiffener is substantially made of at least one of a metal, plastic, glass and ceramic material, is one of a molded, stamped, etched, extruded and deposited stiffener, and is capable of withstanding high temperatures of at least one of an IC die bonding operation and normal IC operation.

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55. (New) An electronic system as claimed in claim 27, the stiffener being planar and mounted to a die-side major planar surface of the substrate.

56. (New) An electronic system as claimed in claim 27, the stiffener having an internal window therein to provide clearance for at least one of a die, under-fill, die side components (DSC), and integrated heat spreader (IHS).

57. (New) An electronic system as claimed in claim 27, the stiffener being a multi-part stiffener.

58. (New) An electronic system as claimed in claim 27, the stiffener having an above-substrate-plane height, which is less-than or equal to an above-substrate-plane height, when mounted, of one of: an IC-die, and a combination of an IC-die with an integrated heat spreader (IHS).

59. (New) An electronic system as claimed in claim 27, the stiffener having a top surface above a substrate-plane, which is substantially co-planar with, when mounted, a top surface of one of: an IC-die, and a combination of an IC-die with an integrated heat spreader.

60. (New) An electronic system as claimed in claim 34, the stiffener being disposable to co-support a heat sink, with one of: an IC-die, and a combination of an IC-die with an integrated heat spreader (IHS).

61. (New) An electronic system as claimed in claim 27, where if a main body of the stiffener is electrically conductive, the stiffener further includes an insulator to electrically insulate electrical members on stiffener-opposing areas of the substrate.

62. (New) An electronic system as claimed in claim 27, the stiffener being an edge stiffener mounted to minor-planar side-surfaces of the substrate.

63. (New) An electronic system as claimed in claim 27, the edge stiffener having a non-flat cross section which is mated with the side-surfaces of the substrate.

64. (New) An electronic system as claimed in claim 27, where the edge stiffener is pre-attached to the substrate by an IC-PCB carrier package manufacturer.

REMARKS

This paper is responsive to the paper(s) indicated above, and is responsive in any other manner indicated below.

PENDING CLAIMS

Claims 1-51 were pending in the application at the time of the Office Action, under consideration and subject to examination in the Office Action. Unrelated to any prior art rejection, appropriate claims have been amended, deleted or added in